COAL MINING AND RECLAMATION PERMIT APPLICATION TO REVISE A PERMIT (ARP)

Issued To: AMERICAN ENERGY CORP
43521 MAYHUGH HILL RD
BEALLSVILLE, OH 43716

Telephone: (740) 926-9152

Permit Number: D-1159
Application Number: R-1159-1

Effective: 01/14/2002
Expires: 01/25/2003

ARP Type:
Wetland Delineation

The issuance of this ARP means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This ARP is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this ARP is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this ARP unless noted otherwise.

Signature: Michael V. Sponsler by RWC **Date:** 01/14/2002
Chief, Mineral Resources Management

OPERATOR

F100 Rev: 07/01/2001

AEC 10129

[redacted]2/96

X New Submittal
____ Revised Submittal R- 1159-B

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

APPLICATION TO REVISE A COAL MINING PERMIT

Note: Refer to the Division's "General Guidelines for Processing ARPs" and "Requirements for Specific Types of Common ARPs" for guidance on submitting and processing ARPs.

1. Applicant's Name Bennoc, Inc.

   Address P.O. Box 208

   City Morristown State Ohio Zip 43759

   Telephone No. 740 - 782 - 1330

2. Permit No. D-1159 .

3. Section of mining and reclamation plan to be revised:

   Part 3, Page 27, Item D(18)

4. Describe in detail the proposed revision and submit any necessary drawings, plans, maps, etc.:

   To submit the wetland delineation report.

5. Describe in detail the reason for requesting the revision:

   As requested by ODNR, DOMRM

6. Will this revision constitute a significant alteration from the mining and reclamation operations contemplated in the original permit? ____ Yes, ✓ No.
   (Note: refer to paragraph (E) (2) of 1501 : 13-4-06 of the Ohio Administrative Code to determine if a revision is deemed significant.)

   If "yes", complete the following items 7 through 9.

7. In the space below give the name and address of the newspaper in which the public notice is to be published.

N/A

8. In the space below give the text of the public notice that is to be published. (Include the information required by paragraph (A) (1) of 1501 : 13-05-01 of the Ohio Administrative Code.)

N/A

9. In the space below give the name and address of the public office where this application is to be filed for public viewing.

N/A

I, the undersigned, a responsible official of the applicant, do hereby verify the information contained in this revision request is true and correct to the best of my knowledge and belief.

Larry Conway — Print Name

10-5-01 — Date

Larry Conway — Signature

President — Title

Sworn before me and subscribed in my presence this 5th day of October, 20 01.

GREER
ELLEN M. ~~LOFTUS~~, Notary Public
State of Ohio
My Commission Expires September 23, 2006

Ellen M. Greer — Notary Public

FOR DIVISION USE ONLY

This request is hereby APPROVED

Michael L. Strawser — Chief, Division of Mines and Reclamation

1-14-02 — Date

Project C7854.13

30 October 1997

WETLAND DELINEATION ON 365.5-ACRE MINE SITE IN BELMONT COUNTY, OHIO

Prepared for:
Jack Hamilton & Associates, Inc.
Box 471
342 High Street
Flushing, Ohio 43977

Submitted By:
3D/International, Environmental Group
781 Neeb Road
Cincinnati, Ohio 45233
tel: 513-922-8199
fax: 513-922-9150

TABLE OF CONTENTS

LIST OF FIGURES

EXECUTIVE SUMMARY

3D/International, Inc., Environmental Group (3D/I) was contracted by Jack Hamilton & Associates, Inc., to conduct a jurisdictional wetland delineation to identify the presence of wetlands and other waters of the United States on an approximate 360-acre site in Jefferson County, Ohio. Portions of the site were previously mined and the project area was proposed for further mining activities. General conditions at the proposed project area consisted oldfields, forests, and abandoned mine areas.

3D/I conducted field surveys on 22-23 October 1997. Eleven jurisdictional wetlands and one non-wetland impoundment were identified on the site. Most wetlands were identified within previously mined areas Two categories of jurisdictional wetlands were identified: palustrine emergent wetlands and palustrine emergent/scrub-shrub wetlands. Boundaries of all wetlands were flagged to allow mapping by a survey crew to determine location and size.

Section 1: Introduction

3D/International, Inc., Environmental Group (3D/I) was contracted by Jack Hamilton & Associates, Inc., to identify wetlands and other Waters of the United States on a mine site owned ~~by J.W.P.~~ BEUNOC, Inc. The 365.5-acre project site is in Belmont County, Ohio.

3D/I wetland scientists conducted a site investigation on 22-23 October 1997 to establish if wetlands or other Waters of the United States occur within the project area, the type of wetlands that occur, and their location. The presence of wetlands was determined using the "Routine Onsite Determination Method" as described in the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987). 3D/I scientists flagged boundaries of all wetlands delineated for later survey.

Field surveys were completed by Dr. Rich Reaves and Mr. Larry Brewer. Dr. Reaves holds a Ph.D. in wetland ecology and has been trained in U.S. Army Corps of Engineers wetland delineation techniques. Dr. Reaves has two years field experience delineating wetlands. Mr. Brewer has been trained in U.S. Army Corps of Engineers wetland delineation techniques, holds an MS degree in Biology and is completing his Doctor of Philosophy (Ph.D.) in Plant Ecology. Mr. Brewer has six years field experience delineating wetlands.

This report represents the professional opinion of 3D/I regarding the presence/absence of wetland habitats and other Waters of the United States and their boundaries within the study area. Final determination of regulatory jurisdiction, and verification of report findings, is under the purview of the U.S. Army Corps of Engineers (USCOE).

Section 2: Site Location

The study area is located in Belmont County, Ohio (Figure 1). The project site consisted of two large areas connected by a strip planned to be developed into a road connecting the two larger areas (Figure 2). The northern area is bordered by TWP RD 74. The southern portion is divided by TWP RD 878 and TWP RD 88.

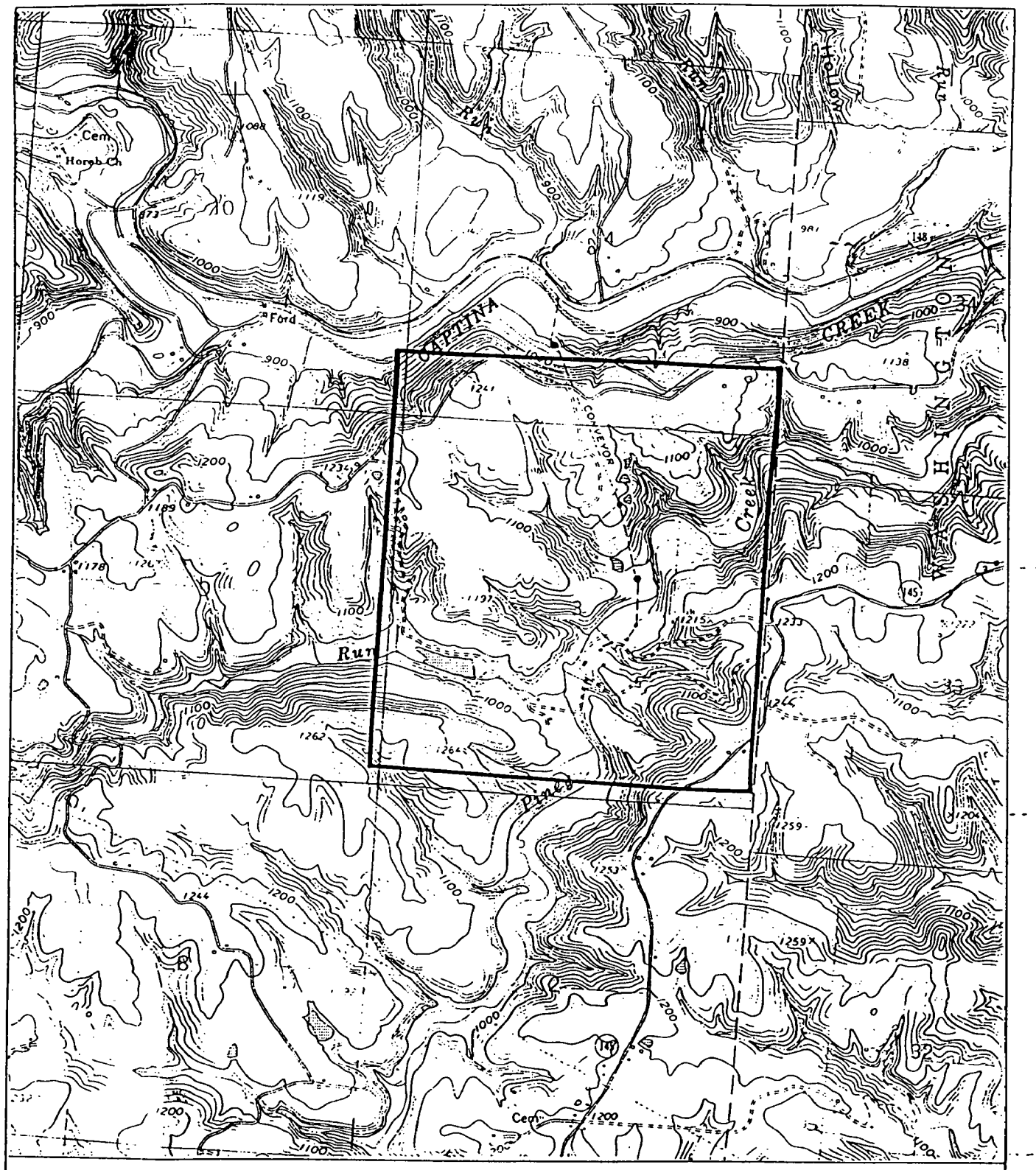


Figure 1. USGS 7.5 minute topographic map of the project area on Hunter Quadrangle, Belmont County, Ohio.

0 1000 2000 3000 4000 5000 1 mile
0 1 kilometer

3D/INTERNATIONAL
ENVIRONMENTAL GROUP

PROJECT # C7854.13

Figure 2. Site map of proposed Bennoc mine site.

0 200 400 600 800 1000 feet

N

3D/INTERNATIONAL
ENVIRONMENTAL GROUP

PROJECT # C7854.13

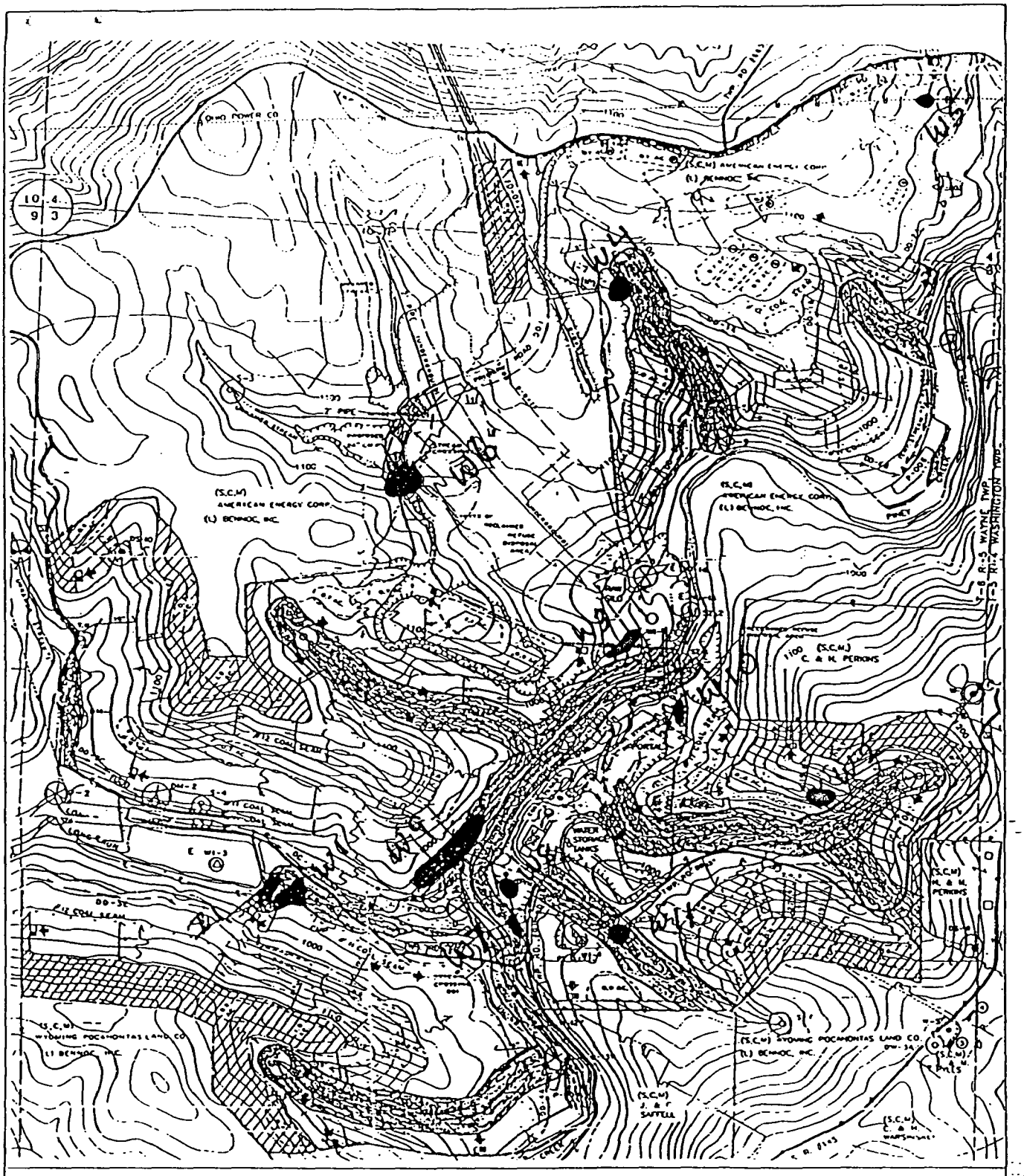


Figure 2. Site map of proposed Bennoc mine site.

Section 3: Study Methods

3.1 WETLAND IDENTIFICATION AND DELINEATION

A topographic map, National Wetlands Inventory map, and site map were reviewed to determine the likelihood of occurrence, and probable location, of wetlands within the proposed impact area. Following background review, a field visit was conducted on 22-23 October 1997 to: (1) characterize the vegetation, (2) examine the soils, (3) inspect surface hydrology, and (4) based on this information, determine if wetlands or other Waters of the United States were present.

Plant communities were investigated to determine the dominant species in each of four classified strata: herb, woody vine, shrub/sapling, and tree. Wetland indicator status for each dominant species was obtained from the manual *National List of Plant Species that Occur in Wetlands: Ohio.* (Reed 1986)

Once plant communities were defined, soil samples were taken within each community and inspected for hydric soil indicators and evidence of wetland hydrology. Munsell Soil Color Charts (1994) were used to identify the hue, value, and chroma of soil samples.

3.2 DELINEATION METHOD - 1987 MANUAL

The site was investigated for wetlands using the "Routine Onsite Determination Method," as described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (USCOE 1987). As of 17 August 1991, the USCOE was directed to utilize the Wetlands Delineation Manual (1987) to identify and delineate wetlands potentially subject to regulation under Section 404 of the Clean Water Act. This transition was directed, in part, by the 1992 Energy and Water Development Appropriation Act, which provides USCOE funding for civil works projects and regulatory programs.

3.3 WETLAND DEFINITION

Wetlands for the purpose of this study were defined as per the publication entitled *Corps of Engineers Wetlands Delineation Manual* (1987):

> Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated

soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

This definition identifies three essential characteristics possessed by wetlands: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology, which is the driving force creating all wetlands.

3.4 WATERS OF THE UNITED STATES

The term "Waters of the United States" has broad meaning and incorporates both deepwater aquatic habitats and special aquatic sites, including wetlands (Federal Register 1980), as follows:

a) The territorial seas with respect to the discharge of fill material.

b) Coastal and inland waters, lakes, rivers, and streams that are navigable Waters of the United States, including their adjacent wetlands.

c) Tributaries to navigable Waters of the United States, including adjacent wetlands.

d) Interstate waters and their tributaries, including adjacent wetlands.

e) All other Waters of the United States not identified above, such as isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not a part of a tributary system to interstate waters or navigable Waters of the United States, the degradation or destruction of which could affect interstate commerce.

For the purpose of this report "Waters of the United States" refers to all waters that do not meet the wetland criteria (hydrophytic vegetation, hydric soils, and hydrology), as defined in the 1987 Manual. Permanent and ephemeral streams are commonly included in this category.

Section 4: Results/Existing Conditions

In the immediate project area the dominant vegetation is mixed hardwood forest with grass-forb areas where abandoned mine areas have been reclaimed. Within the abandoned mine site, there are two water towers, an auger shaft, several concrete pads, and a rubble-filled vertical shaft. There also is an oldfield on the project site.

4.1 WATERS OF THE UNITED STATES

Two named streams flow through the proposed mining site. Piney Creek flows just south of the northern parcel and through the southern parcel of the site. Long Run flows across a portion of the southern parcel. Within the general project area, but outside the survey boundary were three sedimentation ponds left when mining activity ceased.

One impoundment was identified within the project area. There is a large artificial impoundment/ wetland along Long Run outside the project boundary. Two 36-inch culverts drain this area into Long Run on the project site. There is a rock-bottom pool (I1) between the property boundary and wetland W1. The old channel of Long Run extends from I1 back to the offsite impoundment. This channel carries water only when the impoundment is at maximum capacity.

4.2 WETLAND HABITATS

Eleven wetlands were identified within the proposed project area. All wetlands were given an assigned identification number (W1-W11) and indicated by that number in Figure 2. The wetland number corresponds with the number on the data sheets in Appendix 1.

W6, W8, and W11 are palustrine emergent wetlands. Grasses (*Agrostis alba, Elymus virginicus, Glyceria striata, Echinochloa crusgalli*), sedges (*Carex lurida, C. vulpinoidea*), and bulrushes (*Scirpus cyperinus, S. tabernaemontii*) occurred most frequently at these sites. At each emergent wetland a minimum of 50% of the dominant species were classified as obligate wetland plants; however, there was little similarity in species composition among the three sites. No species was found in all three wetlands, and only redtop (*A. alba*) was found in two (W6 and W8).

W1-W5, W7, W9, and W10 are palustrine emergent/scrub-shrub wetlands. At least one species of willow (*Salix exigua, S. nigra, S. rigida*) occurred as a dominant in all 8 wetlands. Alder (*Alnus serrulata*) was a dominant woody plant in W10, the only non-willow woody plant found as a dominant. Woolgrass (*S. cyperinus*), grass-leaved goldenrod (*Euthamia*

graminifolia), cattails (*Typha latifolia, T. angustifolia*), and boneset (*Eupatorium perfoliatum*) were common dominant herbaceous species.

Grasses were less numerous among the herbaceous stratum in emergent/scrub-shrub wetlands. In emergent wetlands, grasses were 40% of herbaceous dominants while only 20% of herbaceous dominants were grasses in emergent/scrub-shrub wetlands.

4.3 UPLAND HABITATS

There are upland forests covering much of the site. Sugar maple (*Acer saccharum*), white oak (*Quercus alba*), and red oak (*Q. Rubra*) are the dominant overstory trees. On the terrace near Piney Creek, eastern white pine (*Pinus strobus*) was locally abundant. Trees present in the canopy layer, but less abundant, included black locust (*Robinia pseudoacacia*), shagbark hickory (*Carya ovata*), American beech (*Fagus grandifolia*), and black cherry (*Prunus serotina*). Common understory species included ironwood (*Carpinus caroliniana*), black cherry, sugar maple, and red oak. Sumacs (*Rhus* spp.) are common around forest edges. Forest age ranged from mid-seral to mature, and the understory was open.

Poison ivy (*Rhus toxicodendron*), blueberries (*Vaccinium* spp.), and white snakeroot (*Eupatorium rugosa*) were common understory plants. Multiflora rose (*Rosa multiflora*) and blackberry (*Rubus allegheniensis*) were common at forest edges.

Other upland areas were cleared/reclaimed areas planted with grasses. Some may have been used as pasture, but there was no indication that these areas were actively pastured at present. At the base f a hill, bordered by Long Run, Piney Creek, and TWP RD 87 there was an old field. This field contained blackberry, multiflora rose, and Canada goldenrod (*Solidago canadensis*).

Section 5: Literature Cited

Munsell Color. 1994. Munsell soil color charts, Kollmorgen Corporation, Baltimore, Maryland.

U.S. Army Corps of Engineers Environmental Laboratory (USACOE). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Reed, Porter B., Jr. 1986. 1986 Wetland Plant List: Ohio. U.S. Fish and Wildlife Service National Wetlands Inventory, St. Petersburg, FL. In cooperation with National and Regional Wetland Plant List Review Panels.

APPENDIX 1: Field Data Sheets

Plot #: W1

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Carex lurida	h	OBL	5. Phalaris arundinacea	h	FACW+
2. Leersia oryzoides	h	OBL	6. Salix exigua	S/S	OBL
3. Eupatorium perfoliatum	h	FACW	7.		
4. Epilobium coriolatum	h	OBL	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 4/4 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated		Oxidized Root Channels in Upper 12"	X
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland	X		
Springs Present			

Field Observations

Depth of Surface Water:	none	Depth to Saturated Soil:	Surface
Depth to Free Water in Pit:	2"	Slope	0-3%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
3-12	B	10YR 4/1	6W	5%	clay loam
			10YR 5/6	10%	

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Hydric Soils Present?	(Yes) No
Wetland Hydrology Present?	(Yes)	No		
Is this Sampling Point Within a Wetland?	(Yes)	No		

Plot #: W2

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Salix rigida	S/S	OBL	5. Scirpus cyperinus	h	OBL
2. Typha angustifolia	h	OBL	6. Carex sp.	h	—
3. Agrostis alba	h	FACW	7. pasture grasses	h	UPL
4. Euthamia graminifolia	h	FAC	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 6/7 = 86%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated		Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland			
Springs Present			

Field Observations

Depth of Surface Water:	none	Depth to Saturated Soil:	8"
Depth to Free Water in Pit:	none	Slope	0-6%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
8-12	B	10YR 3/2	10YR 6/6	15%	clay loam

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Hydric Soils Present?	(Yes) No
Wetland Hydrology Present?	(Yes)	No		
Is this Sampling Point Within a Wetland?			(Yes)	No

Plot #: W3

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 **Applicant/Owner:** Bennoc, Inc. **Date:** 10/23/97

Location (County, State, etc.) Belmont County, OH **Delineator:** Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Salix exigua	S/S	OBL	5. Scirpus cyperinus	h	OBL
2. Salix rigida	S/S	OBL	6. Eupatorium perfoliatum	h	FACW
3. Typha angustifolia	h	OBL	7. Asclepias incarnata	h	OBL
4. Agrostis alba	h	FACW	8. Euthamia graminifolia	h	FAC

Percent of Dominant Species that are OBL, FACW, or FAC: 8/8 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated		Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland			
Springs Present			

Field Observations

Depth of Surface Water:	none	Depth to Saturated Soil:	surface
Depth to Free Water in Pit:	41"	Slope	0-3%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
6-12	B	10YR 3/1	10YR 5/6	15%	mucky loam

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No Hydric Soils Present? (Yes) No

Wetland Hydrology Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No

Plot #: W4

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Scirpus cyperinus	h	OBL	5.		
2. Eupatorium perfoliatum	h	FACW	6.		
3. Salix exigua	S/S	OBL	7.		
4.			8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 3/3 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated	X	Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland			
Springs Present			

Field Observations

Depth of Surface Water:	0-3"	Depth to Saturated Soil:	Surface
Depth to Free Water in Pit:	2"	Slope	0%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR4/1	2.5YR5/6	20%	silty clay

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	(X) Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No Hydric Soils Present? (Yes) No

Wetland Hydrology Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No

Plot #: WS

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	Yes	No
Is the site significantly disturbed (Atypical Situation)?	Yes	No
Is the area a potential Problem Area?	Yes	No

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Phalaris arundinacea	h	FACW+	5. Salix nigra	S/S	OBL
2. Euthamia graminifolia	h	FAC	6.		
3. Scirpus atrovirens	h	OBL	7.		
4. Typha latifolia	h	OBL	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 5/5 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated	X	Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks	X	Local Soil Survey Data	
Drift Lines	X	FAC-Neutral Test	
Sediment Deposits	X	Other (explain on back of form)	
Drainage Patterns in Wetland	X		
Springs Present			

Field Observations

Depth of Surface Water:	0-12	Depth to Saturated Soil:	Surface
Depth to Free Water in Pit:	Surface	Slope	0%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR5/1	7.5YR5/8	10%	silty loam

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Hydric Soils Present?	(Yes)	No
Wetland Hydrology Present?	(Yes)	No			
Is this Sampling Point Within a Wetland?	(Yes)	No			

Plot #: W6

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Eupatorium perfoliatum	h	FACW	5. Carex vulpinoidea	h	OBL
2. Carex lurida	h	OBL	6.		
3. Scirpus cyperinus	h	OBL	7.		
4. Asrath3 alba	h	FACW	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 5/5 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated	X	Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland	X		
Springs Present			

Field Observations

Depth of Surface Water:	0-5"	Depth to Saturated Soil:	surface
Depth to Free Water in Pit:	Surface	Slope	0%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR 4/1	7.5YR 5/8	15%	silt loam

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Hydric Soils Present?	(Yes) No
Wetland Hydrology Present?	(Yes)	No		
Is this Sampling Point Within a Wetland?	(Yes)	No		

Plot #: W 7

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Salix exigua	S/S	OBL	5.		
2. Echinochloa crus-galli	h	FACW	6.		
3. Carex lurida	h	OBL	7.		
4. Salix rigida	S/S	OBL	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 3/4 = 75%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated		Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland			
Springs Present			

Field Observations

Depth of Surface Water:	none	Depth to Saturated Soil:	surface
Depth to Free Water in Pit:	none	Slope	0-2%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR 5/1	7.5YR 5/8	15%	silt clay

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Hydric Soils Present?	(Yes)	No
Wetland Hydrology Present?	(Yes)	No			
Is this Sampling Point Within a Wetland?			(Yes)	No	

Plot #: W8

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Scirpus tabernaemontani	h	OBC	5.		
2. Eleocharis obtusa	h	OBL	6.		
3. Agrostis alba	h	FACW	7.		
4. Echinochloa crus-galli	h	FAC	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 3/4 = 75%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators

Inundated	
Saturated in Upper 12"	X
Water Marks	
Drift Lines	
Sediment Deposits	
Drainage Patterns in Wetland	
Springs Present	

Secondary Hydrology Indicators

Oxidized Root Channels in Upper 12"	
Water-Stained Leaves	
Local Soil Survey Data	
FAC-Neutral Test	
Other (explain on back of form)	

Field Observations

Depth of Surface Water:	none	Depth to Saturated Soil:	surface
Depth to Free Water in Pit:	8"	Slope	0%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR 5/1	7.5 YR 5/8	20%	silt clay

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No Hydric Soils Present? (Yes) No

Wetland Hydrology Present? (Yes) No

Is this Sampling Point Within a Wetland? (Yes) No

Plot #: W9

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/22/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Ceratophyllum muricatum	H	OBL	5.		
2. Salix exigua	S/S	OBL	6.		
3. Eutrochium fistulosum	H	FAC	7.		
4. Lysimachia nummularia	H	OBL	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 4/4 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated		Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"		Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland			
Springs Present			

Field Observations

Depth of Surface Water: 0-24" Depth to Saturated Soil: Surface
Depth to Free Water in Pit: Surface Slope 0%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR5/1	none		silt clay

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ✓ Reducing Conditions
- ___ Gleyed or Low Chroma
- ___ Concretions
- ___ High Organic Content in Surface Layer of Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No Hydric Soils Present? (Yes) No
Wetland Hydrology Present? (Yes) No
Is this Sampling Point Within a Wetland? (Yes) No

Plot #: W10

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/23/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Salix rigida	S/S	OBL	5.		
2. Alnus serrulata	S/S	OBL	6.		
3. Typha latifolia	h	OBL	7.		
4. Juncus tenuis	h	FAC-	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 3/4 = 75%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators

Inundated	
Saturated in Upper 12"	X
Water Marks	
Drift Lines	
Sediment Deposits	
Drainage Patterns in Wetland	
Springs Present	

Secondary Hydrology Indicators

Oxidized Root Channels in Upper 12"	
Water-Stained Leaves	
Local Soil Survey Data	
FAC-Neutral Test	
Other (explain on back of form)	

Field Observations

Depth of Surface Water:	none	Depth to Saturated Soil:	9"
Depth to Free Water in Pit:	none	Slope	0%

SOILS (use back of form for remarks)

Mapping Unit Name: Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-8	A	2.5YR 6/6	none		silt clay
8-12	B	10YR 3/1	none		silt clay

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No Hydric Soils Present? (Yes) No
Wetland Hydrology Present? (Yes) No
Is this Sampling Point Within a Wetland? (Yes) No

AEC 10155

Plot #: W11

DATA FORM
ROUTINE ONSITE WETLAND DETERMINATION

Project Site: C7854.13 Applicant/Owner: Bennoc, Inc. Date: 10/23/97

Location (County, State, etc.) Belmont County, OH Delineator: Reaves/Brewer

Do normal circumstances exist on the site?	(Yes)	No
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)
Is the area a potential Problem Area?	Yes	(No)

VEGETATION (use back of form for remarks)

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Glyceria striata	h	OBL	5.		
2. Epilobium coloratum	h	OBL	6.		
3. Elymus virginicus	h	FACW-	7.		
4. Eupatoriadelphus maculatus	h	FACW	8.		

Percent of Dominant Species that are OBL, FACW, or FAC: 4/4 = 100%

HYDROLOGY (use back of form for remarks)

Primary Hydrology Indicators		Secondary Hydrology Indicators	
Inundated	X	Oxidized Root Channels in Upper 12"	
Saturated in Upper 12"	X	Water-Stained Leaves	
Water Marks		Local Soil Survey Data	
Drift Lines		FAC-Neutral Test	
Sediment Deposits		Other (explain on back of form)	
Drainage Patterns in Wetland	X		
Springs Present			

Field Observations

Depth of Surface Water:	0-2"	Depth to Saturated Soil:	Surface
Depth to Free Water in Pit:	Surface	Slope	0%

SOILS (use back of form for remarks)

Mapping Unit Name: _____ Hydric Soils List? Yes No Confirmed in Field? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-12	A/B	10YR 4/1	none		silty loam

Hydric Soil Indicators:

___ Histosol	___ Reducing Conditions	___ Organic Streaking in Sandy Soils
___ Histic Epipedon	X Gleyed or Low Chroma	___ Listed on Local Hydric Soils List
___ Sulfidic Odor	___ Concretions	___ Listed on National Hydric Soils List
___ Aquic Moisture Regime	___ High Organic Content in Surface Layer of Sandy Soils	___ Other (explain in remarks)

WETLAND DETERMINATION

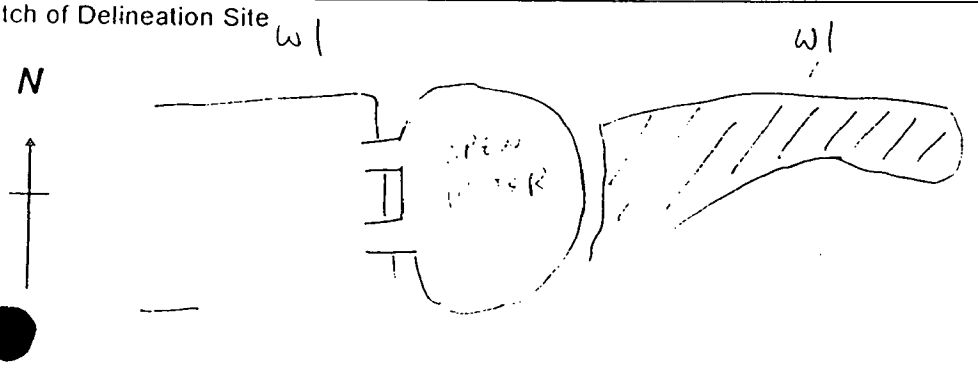
Hydrophytic Vegetation Present?	(Yes)	No	Hydric Soils Present?	(Yes)	No
Wetland Hydrology Present?	(Yes)	No			
Is this Sampling Point Within a Wetland?	(Yes)	No			

REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Fed by runoff from off property cattle tank. Encompasses a stream channel

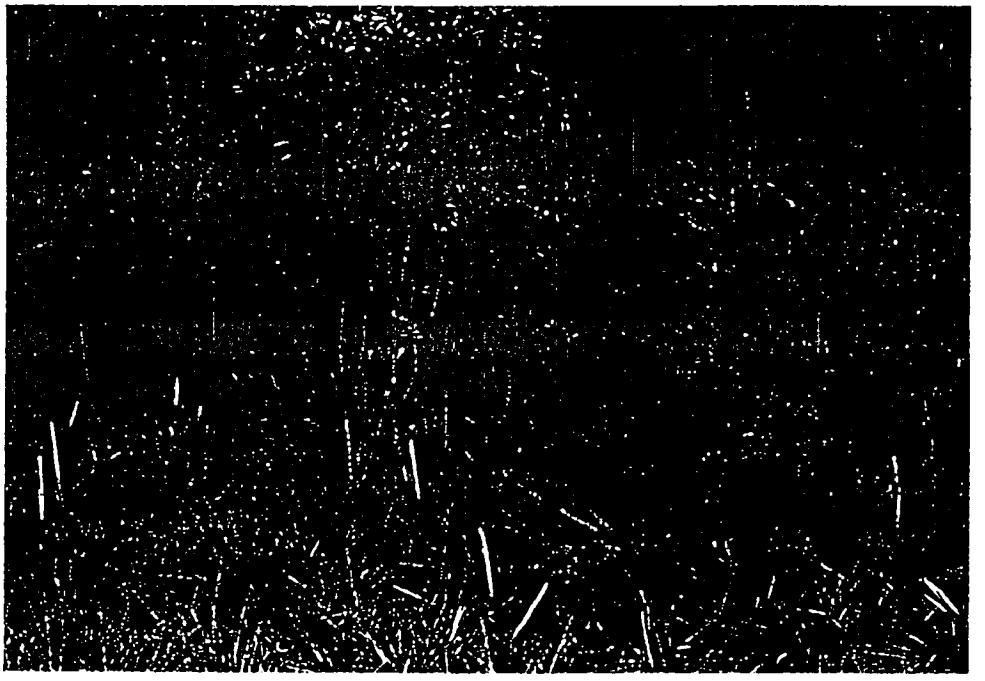
Photograph of Delineation Site

Sketch of Delineation Site



REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Photograph of Delineation Site

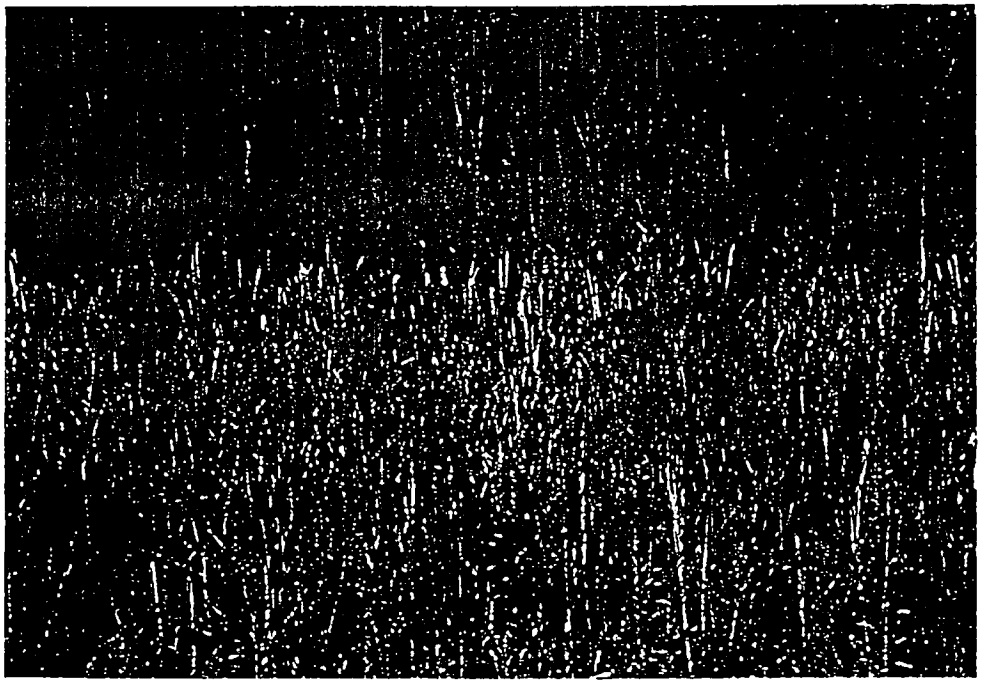


Sketch of Delineation Site 012

N

REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

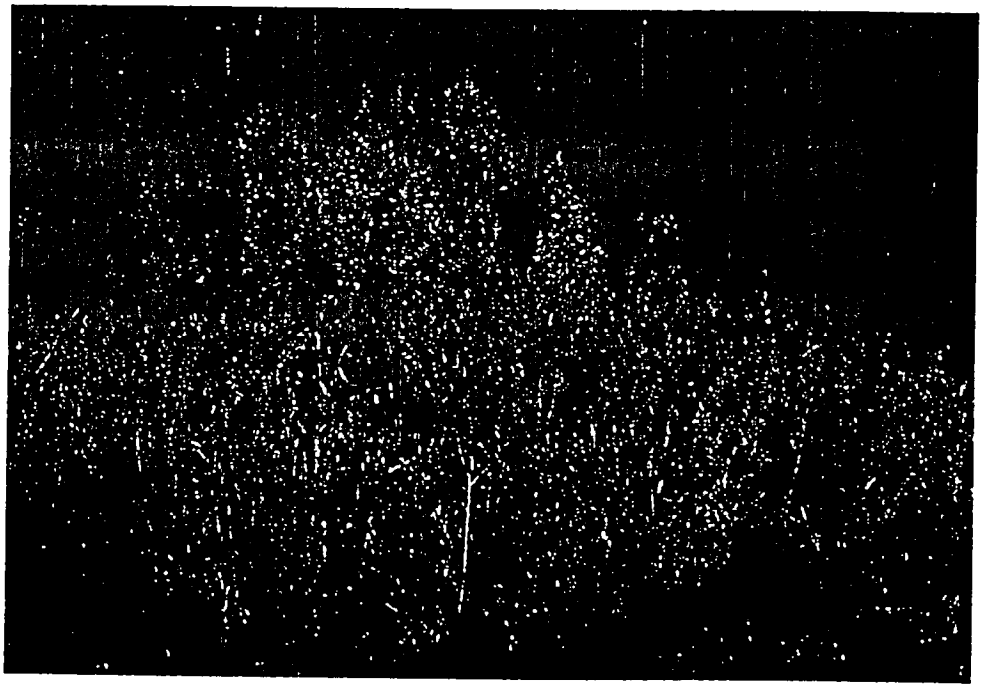
Photograph of Delineation Site



Sketch of Delineation Site

REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Photograph of Delineation Site



Sketch of Delineation Site W 4

N

REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

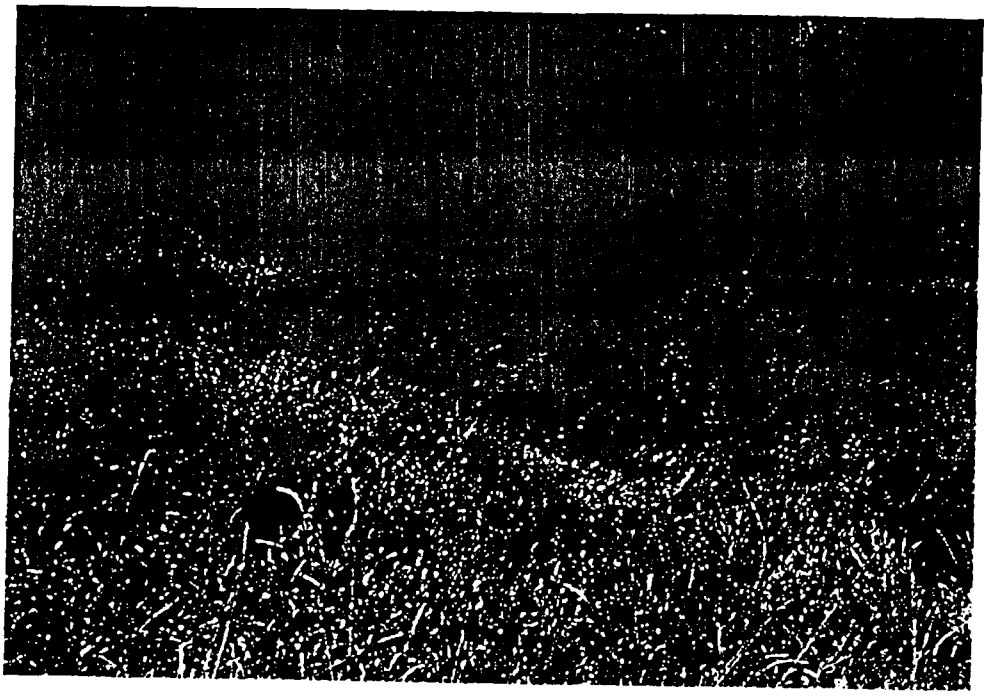
Photograph of Delineation Site

Sketch of Delineation Site WS

N

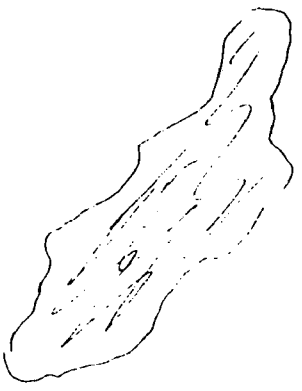
REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Photograph of Delineation Site



Sketch of Delineation Site W6

N



REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

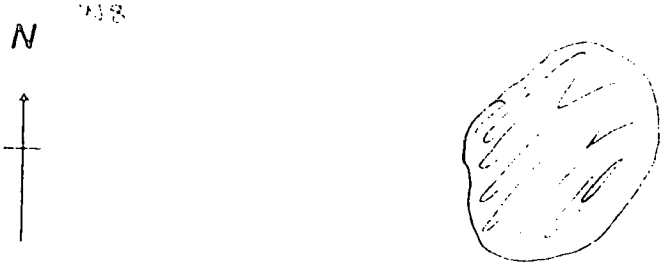
Photograph of Delineation Site

Sketch of Delineation Site w 7

REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Photograph of Delineation Site

Sketch of Delineation Site



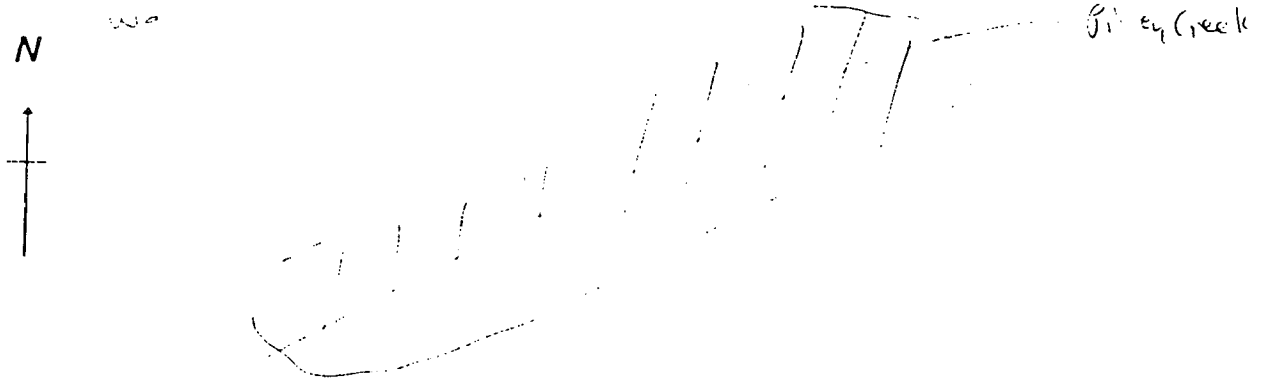
REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Ceratophyllum growing in deep water.

Photograph of Delineation Site

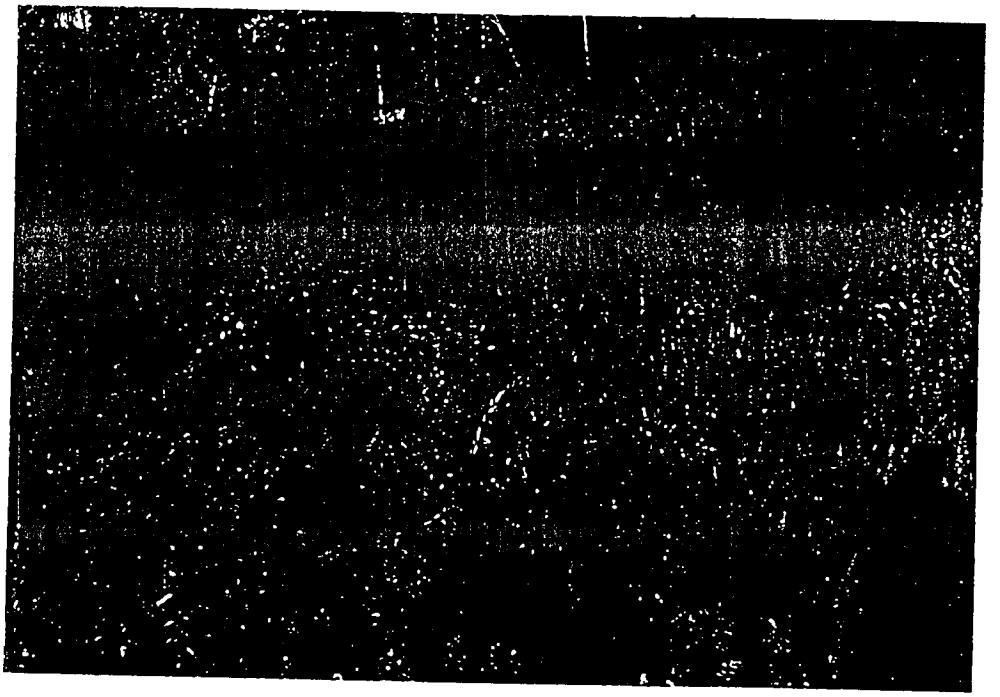
Sketch of Delineation Site

N



REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

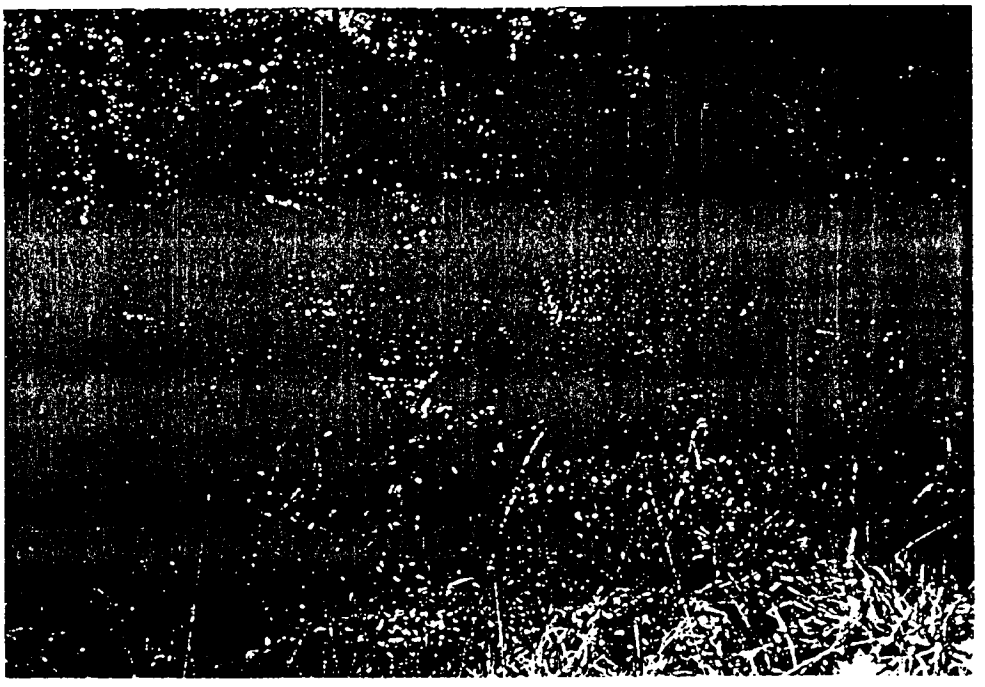
Photograph of Delineation Site



Sketch of Delineation Site

REMARKS (describe site characteristics, source of hydrology, or other aspects relevant to the delineation)

Photograph of Delineation Site



Sketch of Delineation Site

N